

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A prosthetic device for repairing or replacing cartilage or cartilage tissue (1) comprising:

at least one layer having consisting of at least partially oriented fibers (2),
a base component (4) to anchor said at least one layer consisting of at least
partially oriented fibers (2) in subchondral environment, and
a stabilization area (3) provided between said at least one layer having consisting
of at least partially oriented fibers (2) and said base component (4),

wherein said at least partially oriented fibers (2) are aligned essentially in parallel
to the insertion axis of the prosthetic device that is in a direction perpendicular to a top
surface of said base component and the at least one layer consisting of at least
partially oriented fibers (2) form a brush-like structure,

wherein more than 50% of said at least partially oriented fibers are aligned
essentially in parallel to the insertion axis of the device.

2. (Canceled)

3. (Currently Amended) The device according to claim 1, wherein the fiber
material of the at least partially oriented fibers (2) includes a mineral material, synthetic
polymers or molecules, natural polymers or molecules, biotechnologically derived
polymers or molecules, biomacromolecules, or any combination thereof.

4. (Currently Amended) The device according to claim 3, wherein the fiber
diameter of the at least partially oriented fibers (2) is in a range of 50 nm to 1 mm.

5. (Original) The device according to claim 4, wherein said fiber diameter is in a
range of 1 μm to 250 μm .

6. (Currently Amended) The device according to claim 3, wherein the at least partially oriented fibers (2) have a liquid absorbing capacity in a range of 0.1% to 99.9%.

7. (Previously presented) The device according to claim 6, wherein said liquid absorbing capacity is in a range of 20.0% to 99.0%.

8. (Previously presented) The device according to claim 6, wherein the liquid is an aqueous solution and/or body fluids.

9. (Previously presented) The device according to claim 1, wherein the base component (4) comprises a material used as a bone substitute.

10. (Previously presented) The device according to claim 9, wherein said bone substitute is a mineral material, synthetic polymers or molecules, natural polymers or molecules, biotechnologically derived polymers or molecules, biomacromolecules, or any combination thereof.

11. (Original) The device according to claim 9, wherein said material is a synthetic ceramic containing at least one of the following components: calcium phosphate, calcium sulfate, calcium carbonate, or any mixture thereof.

12. (Previously presented) The device according to claim 11, wherein said calcium phosphate contains at least one of the following components: di-calciumphosphatedihydrate ($\text{CaHP}_0.\text{sub.4}.\text{times}.2\text{H}.\text{sub.20}$), dicalciumphosphate ($\text{CaHP}_0.\text{sub.4}$), alpha-tricalciumphosphate (alpha- $\text{Ca}.\text{sub.3}(\text{P}_0.\text{sub.4}).\text{sub.2}$), beta-tricalciumphosphate (beta- $\text{Ca}.\text{sub.3}(\text{P}_0.\text{sub.4}).\text{sub.2}$), calcium deficient hydroxylapatite ($\text{Ca}.\text{sub.9}(\text{P}_0.\text{sub.4}).\text{sub.5}(\text{HP}_0.\text{sub.4})\text{OH}$), hydroxylapatite ($\text{Ca}.\text{sub.10}(\text{P}_0.\text{sub.4}).\text{sub.6}\text{OH}.\text{sub.2}$), carbonated apatite ($\text{Ca}.\text{sub.10}(\text{P}_0.\text{sub.4}).\text{sub.3}(\text{CO}.\text{sub.3}).\text{sub.3}$) ($\text{OH}.\text{sub.2}$) fluorapatite ($\text{Ca}.\text{sub.10}(\text{P}_0.\text{sub.4}).\text{sub.6}(\text{F},\text{OH}).\text{sub.2}$), chlorapatite

(Ca.₁₀(P₀.sub.4).sub.6(Cl,OH).sub.2), whitlockite ((Ca,Mg).sub.3(P₀.sub.4).sub.2), tetracalciumphosphate (Ca.₄(P₀.sub.4).sub.20), oxyapatite (Ca.₁₀(P₀.sub.4).sub.60), beta-calciumpyrophosphate (beta-Ca.₂(P₂₀.sub.7), alpha-calciumpyrophosphate, gamma-calcium-pyrophosphate, octacalciumphosphate (Ca.₈H₂(P₀.sub.4).sub.6.times.5H₂O).

13. (Original) The device according to claim 9, wherein said material is a synthetic ceramic containing metallic, semimetallic ions, and/or non-metallic ions, preferably magnesium, silicon, sodium, potassium, and/or lithium.

14. (Currently Amended) The device according to claim[[s]] 9, wherein the material is a composite material comprising at least a polymer component and a mineral phase.

15. (Previously presented) The device according to claim 9, wherein the bone substitute material is highly porous with interconnecting pores.

16. (Previously presented) The device according to claim 9, wherein the shape of the base component (4) is round, cylindrical, or conical.

17. (Original) The device according to claim 16, wherein the diameter of the base component (4) ranges between 2 and 30 mm, with a height being 1 to 30 mm.

18. (Original) The device according to claim 16, wherein the diameter of the base component (4) ranges between 4 and 20 mm, with a preferred height being between 1 to 6 mm.

19. (Previously presented) The device according to claim 1, wherein said stabilization area (3) is a zone comprising at least one layer.

20. (Original) The device according to claim 19, wherein said zone has a thickness of 1 nm to 1 mm.
21. (Previously presented) The device according to claim 19, wherein said zone is porous.
22. (Canceled)
23. (Previously presented) The device according to claim 1, further comprising at least one externally added component.
24. (Previously presented) The device according to claim 23, wherein said component is cells of different origin.
25. (Original) The device according to claim 24, wherein said cells are autologous cells, allogeneous cells, xenogenous cells, transfected cells and/or genetically engineered cells.
26. (Previously presented) The device according to claim 23, wherein chondrocytes, chondral progenitor cells, pluripotent cells, tutipotent cells or combinations thereof are present throughout the fiber layer(s) (2).
27. (Previously presented) The device according to claim 23, wherein osteoplasts, osteo progenitor cells, pluripotent cells, tutipotent cells or combinations thereof are present throughout the base component (4).
28. (Previously presented) The device according to claim 23, wherein blood or any fraction thereof is present throughout the base component (4).
29. (Original) The device according to claim 23, wherein pharmaceutical compounds are contained.

30. (Canceled)

31. (Canceled)

32. (Previously Presented) The device according to claim 1, wherein the device is adapted to be implanted in articulating joints in humans and animals.

33. (Previously Presented) The device according to claim 32 wherein the device regenerates articulator cartilagenous tissue.

34. (Currently Amended) The device according to claim 1, wherein more than 90% of said at least partially oriented fibers (2) are aligned essentially in parallel to the insertion axis of the device that is in a direction perpendicular to a top surface of said base component.

35. (Previously Presented) The device according to claim 1, wherein the stabilization area (3) is an absolute or selective cell barrier layer for preventing cells and blood from diffusing from the base component (4) into the brush-like fiber structure.

36. (Currently Amended) The device according to claim 6, wherein the at least partially oriented fibers (2) are designed to form a gel or transform to a gel-like state when absorbing liquid.